

WHAT IS CLAIMED IS:

1. A toner kit comprising a non-magnetic black toner having at least carbon black, and at least three color toners;

5        said black toner having a weight-average particle diameter represented by  $D4b$  and a one-point method BET specific surface area represented by  $Sb$ , and the color toners, other than the black toner, each having a weight-average particle diameter represented by  $D4c$  and  
10        a one-point method BET specific surface area represented by  $Sc$ , where;

      said black toner and color toners satisfy the following relations (1) and (2):

Relation (1):  $0.60 \leq D4c/D4b \leq 0.96$ ,

15        Relation (2):  $0.750 \leq Sc/Sb \leq 1.000$ ;

and each have an average circularity of from 0.950 to 1.000 and a circularity standard deviation of less than 0.040 as measured with a flow type particle image analyzer.

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2. The toner kit according to claim 1, wherein, where the proportion of 5.04  $\mu m$  or smaller particles that is calculated from number-based particle size distribution of said black toner is represented by  $Ub_{5.04}$   
25        (% by number), the proportion of 5.04  $\mu m$  or smaller particles that is calculated from number-based particle size distribution of each of said color toners is

represented by  $U_{C5.04}$  (% by number), the proportion of  
12.7  $\mu\text{m}$  or larger particles that is calculated from  
weight-based particle size distribution of said black  
toner is represented by  $U_{b12.7}$  (% by weight), and the  
5 proportion of 12.7  $\mu\text{m}$  or larger particles that is  
calculated from weight-based particle size distribution  
of each of said color toners is represented by  $U_{C12.7}$  (%  
by weight), the toners satisfy the following relations  
(3), (4) and (5):  
10 Relation (3):  $1.2 \leq U_{C5.04}/U_{b5.04} \leq 6.0$ ,  
Relation (4):  $U_{b12.7} \leq 2.0$ ,  
Relation (5):  $U_{C12.7} \leq 1.0$ .

3. The toner kit according to claim 1, wherein  
15 said black toner has a weight-average particle diameter  
D4b of from 3.2  $\mu\text{m}$  to 10  $\mu\text{m}$ , and said color toners each  
have a weight-average particle diameter D4c of from 3.0  
 $\mu\text{m}$  to 9.6  $\mu\text{m}$ .

20 4. The toner kit according to claim 1, wherein  
said black toner and color toners each contain at least  
inorganic fine particles.

5. The toner kit according to claim 4, wherein  
25 said inorganic fine particles comprises fine silica  
particles.

6. The toner kit according to claim 5, wherein said fine silica particles are subjected to at least oil treatment.

5        7. The toner kit according to claim 1, wherein said black toner and color toners each contain at least two kinds of inorganic fine particles having different BET specific surface areas.

10       8. The toner kit according to claim 4, wherein the proportion of the inorganic fine particles contained in said black toner is larger than the proportion of the inorganic fine particles contained in said color toners.

15       9. The toner kit according to claim 1, wherein said color toners comprise a yellow toner, a magenta toner and a cyan toner, and all of these satisfy the relations (1) and (2).

20       10. A color image-forming method comprising:  
a charging step of electrostatically charging an electrostatic-latent-image-bearing member for holding thereon an electrostatic latent image;  
an electrostatic latent image formation step of  
25 forming the electrostatic latent image on the electrostatic-latent-image-bearing member thus charged;  
a developing step of developing the electrostatic

latent image by the use of a toner a developing means  
has, to form a toner image;

a transfer step of transferring the toner image  
held on the electrostatic-latent-image-bearing member,  
5 to a transfer material via, or not via, an intermediate  
transfer member; and

a fixing step of fixing by a fixing means the toner  
image held on the transfer material;

i) a non-magnetic black toner having at least  
10 carbon black and ii) at least three color toners each  
being used as the toner;

said black toner having a weight-average particle  
diameter represented by  $D4b$  and a one-point method BET  
specific surface area represented by  $Sb$ , and said color  
15 toners, other than the black toner, each having a  
weight-average particle diameter represented by  $D4c$  and  
a one-point method BET specific surface area represented  
by  $Sc$ , where;

said black toner and color toners satisfy the  
20 following relations (1) and (2):

Relation (1):  $0.60 \leq D4c/D4b \leq 0.96$ ,

Relation (2):  $0.750 \leq Sc/Sb \leq 1.000$ ;

and each have an average circularity of from 0.950 to  
1.000 and a circularity standard deviation of less than  
25 0.040 as measured with a flow type particle image  
analyzer.

11. The color image-forming method according to claim 10, wherein, where the proportion of 5.04  $\mu\text{m}$  or smaller particles that is calculated from number-based particle size distribution of said black toner is represented by  $U_{b5.04}$  (% by number), the proportion of 5.04  $\mu\text{m}$  or smaller particles that is calculated from number-based particle size distribution of each of said color toners is represented by  $U_{c5.04}$  (% by number), the proportion of 12.7  $\mu\text{m}$  or larger particles that is calculated from weight-based particle size distribution of said black toner is represented by  $U_{b12.7}$  (% by weight), and the proportion of 12.7  $\mu\text{m}$  or larger particles that is calculated from weight-based particle size distribution of each of said color toners is represented by  $U_{c12.7}$  (% by weight), the toners satisfy the following relations (3), (4) and (5):

Relation (3):  $1.2 \leq U_{c5.04}/U_{b5.04} \leq 6.0$ ,

Relation (4):  $U_{b12.7} \leq 2.0$ ,

Relation (5):  $U_{c12.7} \leq 1.0$ .

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12. The color image-forming method according to claim 10, wherein said black toner and color toners each contain at least inorganic fine particles.

25 13. The color image-forming method according to claim 12, wherein said inorganic fine particles comprises fine silica particles.

14. The color image-forming method according to claim 13, wherein said fine silica particles are subjected to at least oil treatment.

5        15. The color image-forming method according to claim 10, wherein said black toner and color toners each contain at least two kinds of inorganic fine particles having different BET specific surface areas.

10       16. The color image-forming method according to claim 12, wherein the proportion of the inorganic fine particles contained in said black toner is larger than the proportion of the inorganic fine particles contained in said color toners.

15       17. The color image-forming method according to claim 10, wherein said color toners comprise a yellow toner, a magenta toner and a cyan toner, and all of these satisfy the relations (1) and (2).

20       18. The color image-forming method according to claim 10, which is a color image-forming method comprising:

forming a black toner image by means of a  
25    black-image-forming unit having at least an electrostatic-latent-image-bearing member, a charging means, a developing means and a toner-holding means; and

forming color toner images by means of  
color-image-forming units each having at least an  
electrostatic-latent-image-bearing member, a charging  
means, a developing means and a toner-holding means;

5       said black-image-forming unit and  
color-image-forming units being disposed in a tandem  
form.

19. The color image-forming method according to  
10       claim 10, wherein said color-image-forming units  
comprise a yellow-image-forming unit, a  
magenta-image-forming unit and a cyan-image-forming  
unit;

      said yellow-image-forming unit having at least the  
15       electrostatic-latent-image-bearing member, the charging  
means, the developing means and the toner-holding means  
to form a yellow toner image;

      said magenta-image-forming unit having at least the  
electrostatic-latent-image-bearing member, the charging  
20       means, the developing means and the toner-holding means  
to form a magenta toner image; and

      said cyan-image-forming unit having at least the  
electrostatic-latent-image-bearing member, the charging  
means, the developing means and the toner-holding means  
25       to form a cyan toner image;

      said black-image-forming unit, yellow-image-forming  
unit, magenta-image-forming unit and cyan-image-forming

unit being disposed in the tandem form.

20. The color image-forming method according to  
claim 10, wherein said developing step serves also as  
5 the collection of a transfer residual toner.

21. The color image-forming method according to  
claim 10, wherein said developing step is of a two-  
component developing system which performs development  
10 making use of a two-component developer containing a  
non-magnetic toner and a magnetic carrier.

22. The color image-forming method according to  
claim 10, wherein said developing step is of a  
15 two-component developing system which performs  
development making use of a two-component developer  
containing a non-magnetic toner and a magnetic carrier,  
where;

as the developing system an auto-refresh developing  
20 system is used in which images are formed successively  
collecting the magnetic carrier and replenishing a  
replenishing developer containing a non-magnetic toner  
and a magnetic carrier.